

1 ATGGCGCCAC CACCAGCTAG AGTACATCTA GGTGCGTTCC TGGCAGTGAC
TACCGCGGTG GTGGTCGATC TCATGTAGAT CCACGCAAGG ACCGTCACCTG
1 MetAlaProP roProAlaAr gValHisLeu GlyAlaPheL euAlaValTh

51 TCCGAATCCC GGGAGCGCAG CGAGTGGGAC AGAGGCAGCC GCGGCCACAC
AGGCTTAGGG CCCTCGCGTC GCTCACCCCTG TCTCCGTCGG CGCCGGTGTG
rProAsnPro GlySerAlaA laSerGlyTh rGluAlaAla AlaAlaThrPro

101 CCAGCAAAGT GTGGGGCTCT TCCGCGGGGA GGATGAACC ACGAGGCGGG
GGTCGTTTCA CACCCCGAGA AGGCGCCCTT CTAACCTTGG TGCTCCGCCC
35 SerLysVa lTrpGlySer SerAlaGlyA rgIleGluPr oArgGlyGly

151 GGCCGAGGAG CGCTCCCTAC CTCCATGGGA CAGCACGGAC CCAGTGCCCCG
CCGGCTCCTC GCGAGGGATG GAGGTACCCT GTCGTGCCTG GGTCACGGGC
GlyArgGlyA laLeuProTh rSerMetGly GlnHisGlyP roSerAlaArg

201 GGCCCGGGCA GGGCGCGCCC CAGGACCCAG GCCGGCGCGG GAAGCCAGCC
CCGGGCCCGT CCCGCGCGGG GTCCTGGGTC CGGCCGCGCC CTTCCGTCGG
58 AlaArgAla GlyArgAlaP roGlyProAr gProAlaArg GluAlaSerP

251 CTCGGCTCCG GGTCCACAAG ACCTTCAAGT TTGTCGTCGT CGGGGTCTTG
GAGCCGAGGC CCAGGTGTTC TGGAAGTTCA AACAGCAGCA GCCCCAGGAC
roArgLeuAr gValHisLys ThrPheLysP heValValVa lGlyValLeu

301 CTGCAGGTCG TACCTAGCTC AGCTGCAACC ATGATCAATC AATTGGCACA
GACGTCCAGC ATGGATCGAG TCGACGTTGG TAGTTTGAAG TACTAGTTAG
101 LeuGlnValV alProSerSe rAlaAlaThr IleLysLeuH isAspGlnSe

351 AATTGGCACA CAGCAATGGG AACATAGCCC TTTGGGAGAG TTGTGTCCAC
TTAACCGTGT GTCGTTACCC TTGTATCGGG AAACCCTCTC AACACAGGTG
rIleGlyThr GlnGlnTrpG luHisSerPr oLeuGlyGlu LeuCysProPro

401 CAGGATCTCA TAGATCAGAA CGTCCTGGAG CCTGTAACCG GTGCACAGAG
GTCCTAGAGT ATCTAGTCTT GCAGGACCTC GGACATTGGC CACGTGTCTC
135 GlySerHi sArgSerGlu ArgProGlyA laCysAsnAr gCysThrGlu

451 GGTGTGGGTT ACACCAATGC TTCCAACAAT TTGTTTGCTT GCCTCCCATG
CCACACCCAA TGTGGTTACG AAGGTTGTTA AACAAACGAA CGGAGGGTAC
GlyValGlyT yrThrAsnAl aSerAsnAsn LeuPheAlaC ysLeuProCys

501 TACAGCTTGT AAATCAGATG AAGAAGAGAG AAGTCCCTGC ACCACGACCA
ATGTCGAACA TTTAGTCTAC TTCTTCTCTC TTCAGGGACG TGGTGCTGGT
168 ThrAlaCys LysSerAspG luGluGluAr gSerProCys ThrThrThrA

551 GGAACACAGC ATGTCAGTGC AAACCAGGAA CTTTCCGGAA TGACAATTCT
CCTTGTGTCTG TACAGTCACG TTTGGTCCTT GAAAGGCCTT ACTGTTAAGA
rgAsnThrAl aCysGlnCys LysProGlyT hrPheArgAs nAspAsnSer

601 GCTGAGATGT GCCGGAAGTG CAGCACAGGG TGCCCCAGAG GGATGGTCAA
CGACTCTACA CGGCCTTCAC GTCGTGTCCC ACGGGGTCTC CCTACCACTT
201 AlaGluMetC ysArgLysCy sSerThrGly CysProArgG lyMetVally

651 GGTCAAGGAT TGTACGCCCT GGAGTGACAT CGAGTGTGTC CACAAAGAAT
CCAGTTCTTA ACATGCGGGA CCTCACTGTA GCTCACACAG GTGTTTCTTA
sValLysAsp CysThrProT rpSerAspIl eGluCysVal HisLysGluSer

FIG. 1A

+



701 CAGGCAATGG ACATAATATA TGGGTGATTT TGGTTGTGAC TTTGGTTGTT
GTCCGTTACC TGTATTATAT ACCCACTAAA ACCAACACTG AAACCAACAA
235 GlyAsnGly yHisAsnIle TrpValIleL euValValTh rLeuValVal

751 CCGTTGCTGT TGGTGGCTGT GCTGATTGTC TGTTGTTGCA TCGGCTCAGG
GGCAACGACA ACCACCGACA CGACTAACAG ACAACAACGT AGCCGAGTCC
ProLeuLeuL euValAlaVa lLeuIleVal CysCysCysI leGlySerGly

801 TTGTGGAGGG GACCCCAAGT GCATGGACAG GGTGTGTTTC TGGCGCTTGG
AACACCTCCC CTGGGGTTCA CGTACCTGTC CCACACAAAG ACCGCGAACC
268 CysGlyGly AspProLysC ysMetAspAr gValCysPhe TrpArgLeuG

851 GTCTCCTACG AGGGCCTGGG GCTGAGGACA ATGCTCACAA CGAGATTCTG
CAGAGGATGC TCCCGGACCC CGACTCCTGT TACGAGTGTT GCTCTAAGAC
lyLeuLeuAr gGlyProGly AlaGluAspA snAlaHisAs nGluIleLeu

901 AGCAACGCAG ACTCGCTGTC CACTTTCGTC TCTGAGCAGC AAATGGAAAG
TCGTTGCGTC TGAGCGACAG GTGAAAGCAG AGACTCGTCG TTTACCTTTC
201 SerAsnAlaA spSerLeuSe rThrPheVal SerGluGlnG lnMetGluSe

951 CCAGGAGCCG GCAGATTTGA CAGGTGTCAC TGTACAGTCC CCAGGGGAGG
GGTCCTCGGC CGTCTAAACT GTCCACATGT ACATGTCAGG GGTCCCCTCC
rGlnGluPro AlaAspLeuT hrGlyValTh rValGlnSer ProGlyGluAla

1001 CACAGTGTCT GCTGGGACCG GCAGAAGCTG AAGGGTCTCA GAGGAGGAGG
GTGTCACAGA CGACCCTGGC CGTCTTCGAC TTCCCAGAGT CTCCTCCTCC
335 GlnCysLe uLeuGlyPro AlaGluAlaG luGlySerGl nArgArgArg

1051 CTGCTGGTTC CAGCAAATGG TGCTGACCCC ACTGAGACTC TGATGCTGTT
GACGACCAAG GTCGTTTACC ACGACTGGGG TGACTCTGAG ACTACGACAA
LeuLeuValP roAlaAsnGl yAlaAspPro ThrGluThrL euMetLeuPhe

1101 CTTTGACAAG TTTGCAAACA TCGTGCCCTT TGA CTCTCTGG GACCAGCTCA
GAAACTGTTC AAACGTTTGT AGCACGGGAA ACTGAGGACC CTGGTCGAGT
368 PheAspLys PheAlaAsnI leValProPh eAspSerTrp AspGlnLeuM

1151 TGAGGCAGCT GGACCTCACG AAAAATGAGA TCGATGTGGT CAGAGCTGGT
ACTCCGTCGA CCTGGAGTGC TTTTACTCT AGCTACACCA GTCTCGACCA
etArgGlnLe uAspLeuThr LysAsnGluI leAspValVa lArgAlaGly

1201 ACAGCAGGCC CAGGGGATGC CTTGTATGCA ATGCTGATGA AATGGGTCAA
TGTCGTCCGG GTCCCCTACG GAACATACGT TACGACTACT TTACCCAGTT
401 ThrAlaGlyP roGlyAspAl aLeuTyrAla MetLeuMetL ysTrpValAs

1251 CAAAACTGGA CGGAACGCCT CGATCCACAC CCTGCTGGAT GCCTTGAGGA
GTTTTGACCT GCCTTGCGGA GCTAGGTGTG GGACGACCTA CGGAACCTCT
nLysThrGly ArgAsnAlaS erIleHisTh rLeuLeuAsp AlaLeuGluArg

1301 GGATGGAAGA GAGACATGCA AAAGAGAAGA TTCAGGACCT CTTGGTGGAC
CCTACCTTCT CTCTGTACGT TTTCTCTTCT AAGTCCTGGA GAACCACCTG
435 MetGluGl uArgHisAla LysGluLysI leGlnAspLe uLeuValAsp

1351 TCTGGAAAGT TCATCTACTT AGAAGATGGC ACAGGCTCTG CCGTGTCCTT
AGACCTTTCA AGTAGATGAA TCTTCTACCG TGTCCGAGAC GGCACAGGAA
SerGlyLysP heIleTyrLe uGluAspGly ThrGlySerA laValSerLeu

1401 GGAGTGA
CCTCACT
468 GluOP*

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FIG. 1B



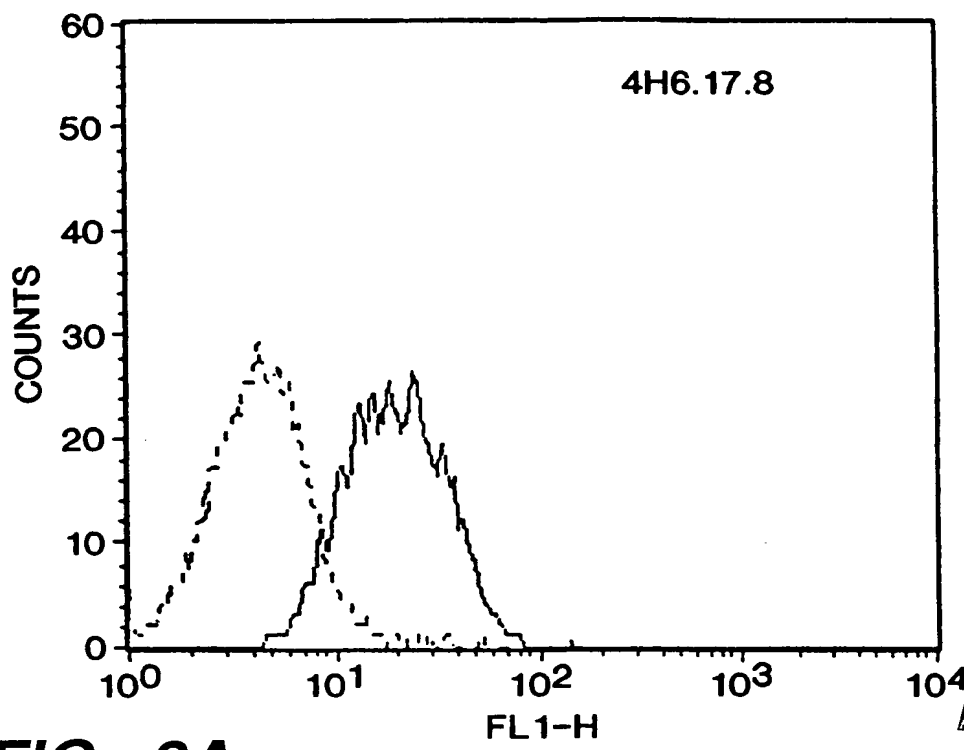


FIG._2A

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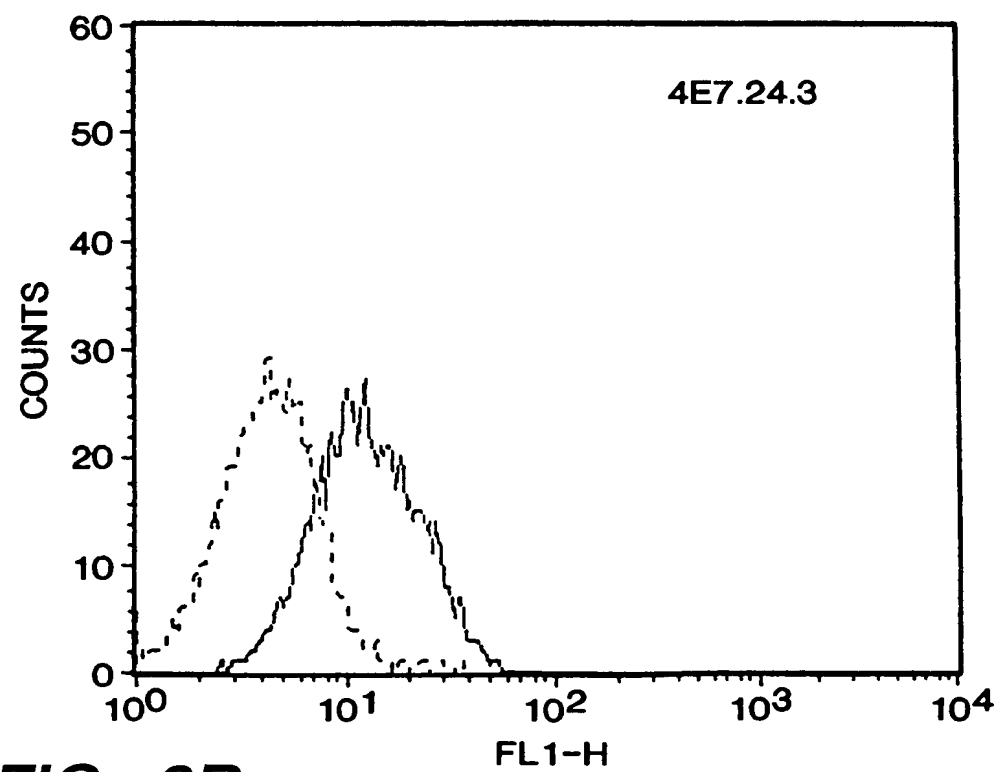


FIG._2B



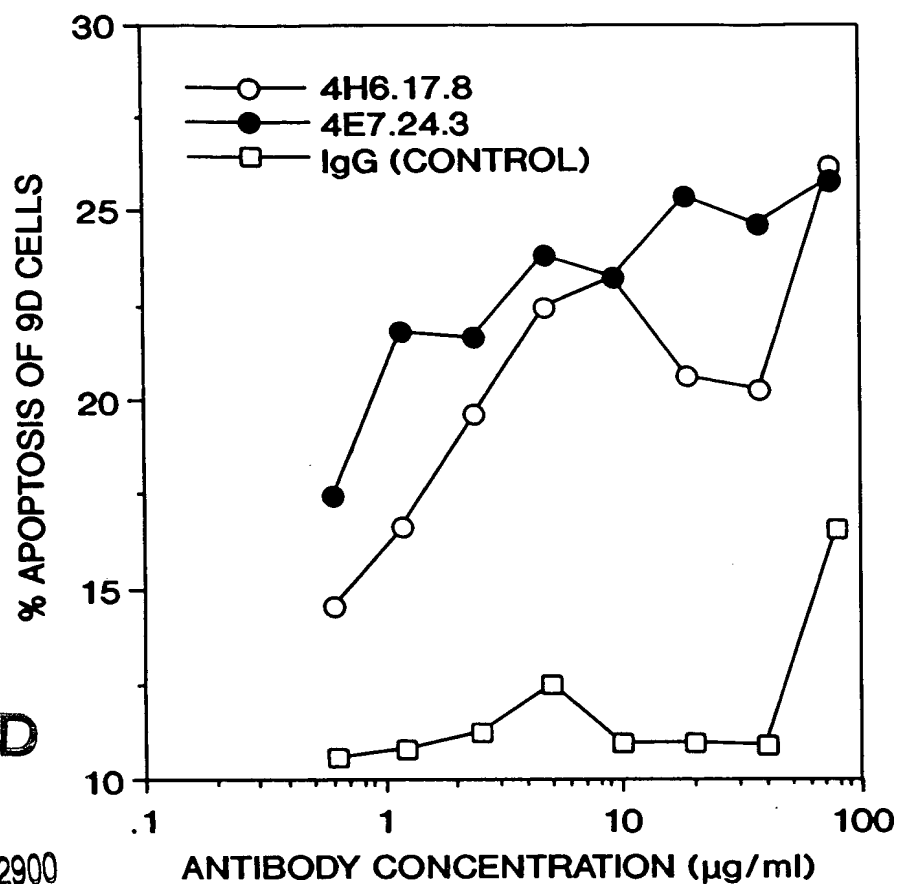


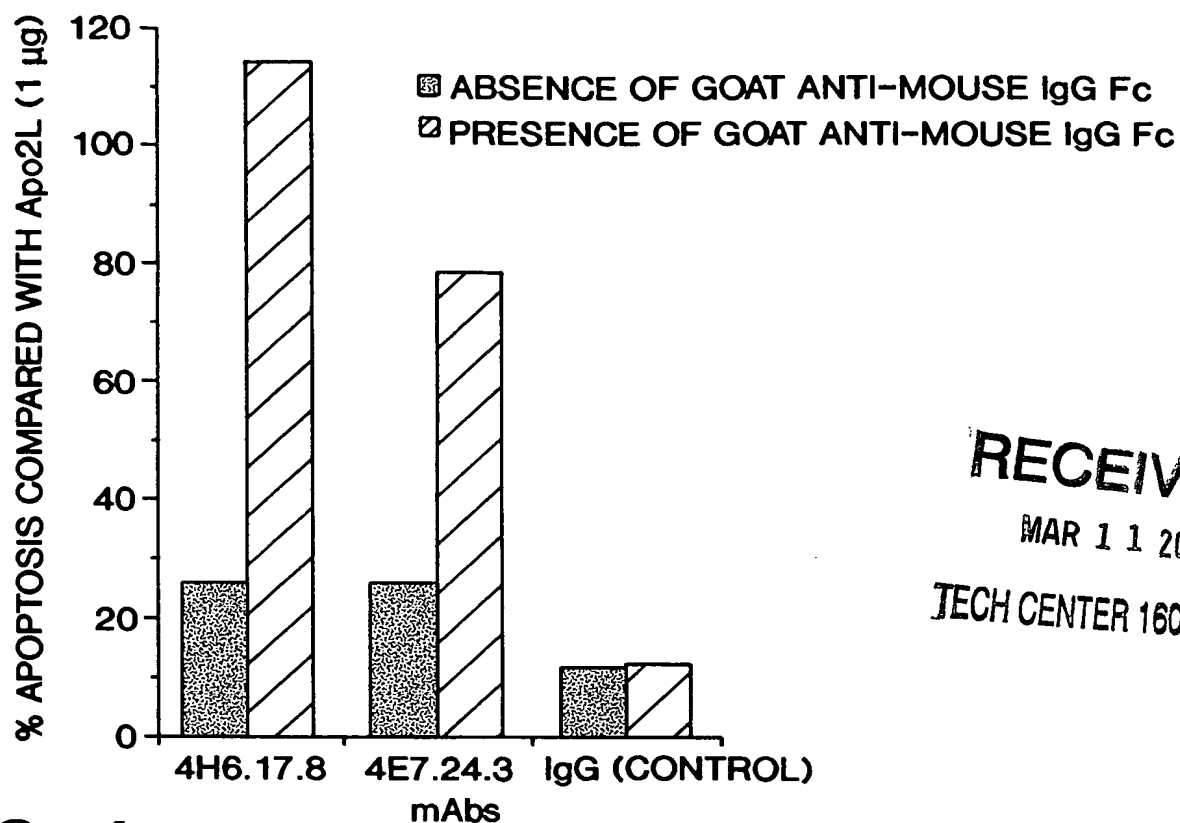
FIG. 3

AFFINITIES OF Apo2Rs AND mAbs

| | | AFFINITY (pM) |
|----------|------------|---------------|
| DR4-IgG | to Apo2L | 82 |
| DR5-IgG | to Apo2L | 1 |
| mAb 4E7 | to DR4-IgG | 2 |
| mAb 4H6 | to DR4-IgG | 5 |
| mAb 5G11 | to DR4-IgG | 22 |
| mAb 3F11 | to DR5-IgG | 20 |
| mAb 3H3 | to DR5-IgG | 3 |

Affinities were determined using KinExA

FIG. 7



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FIG. 4

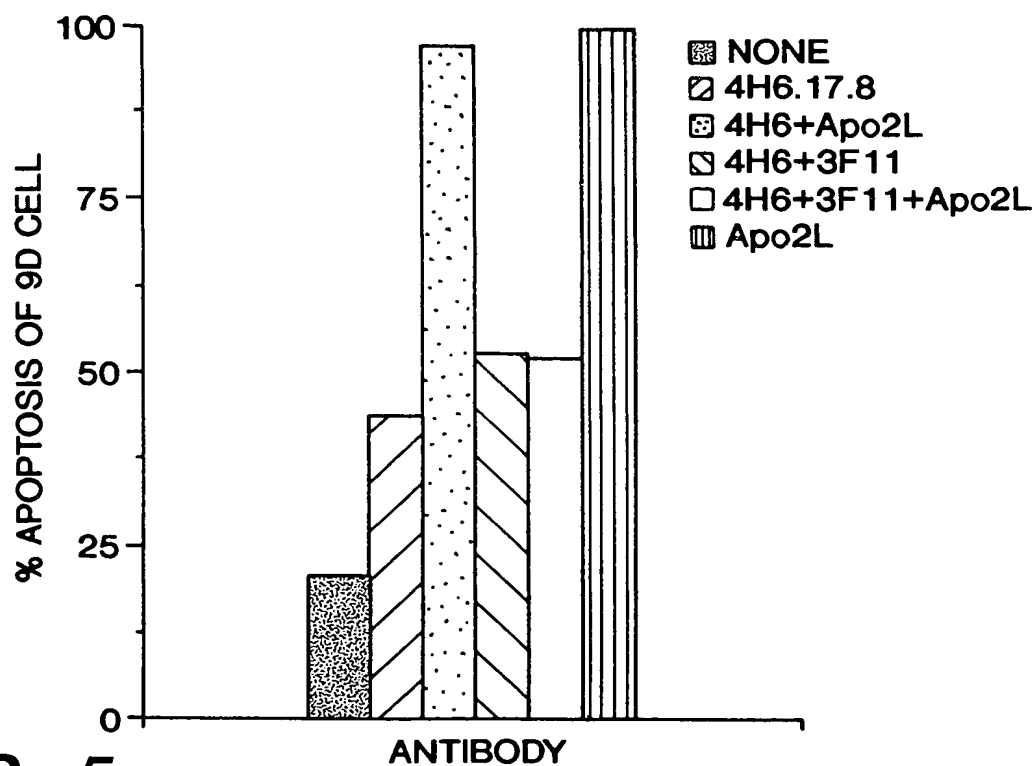


FIG. 5

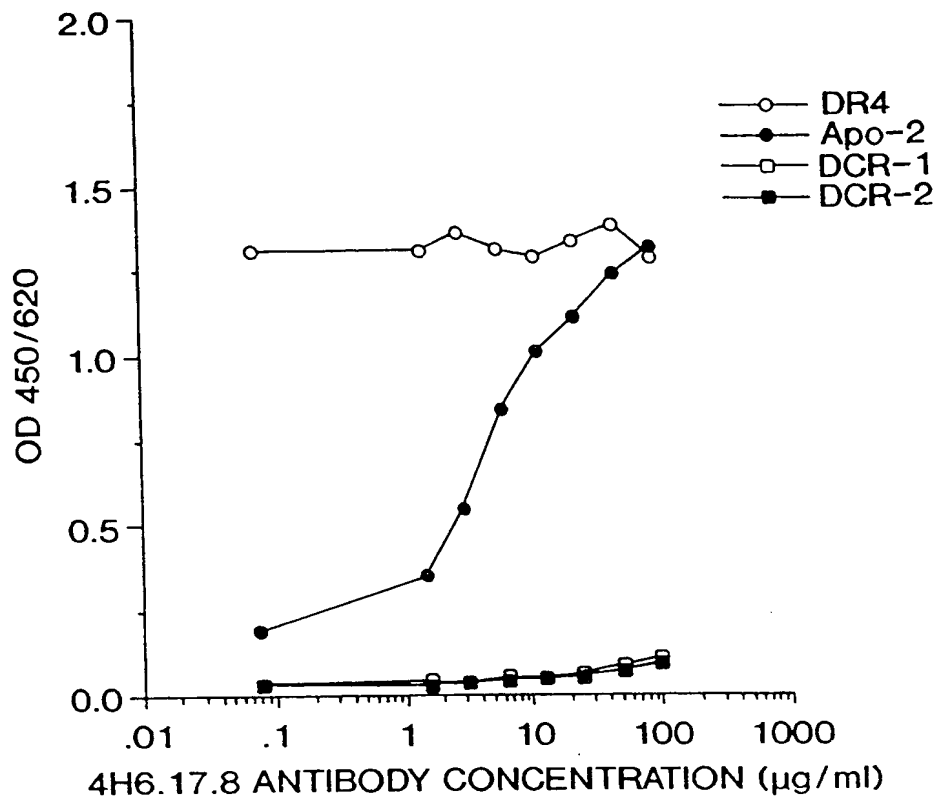


FIG. 6A

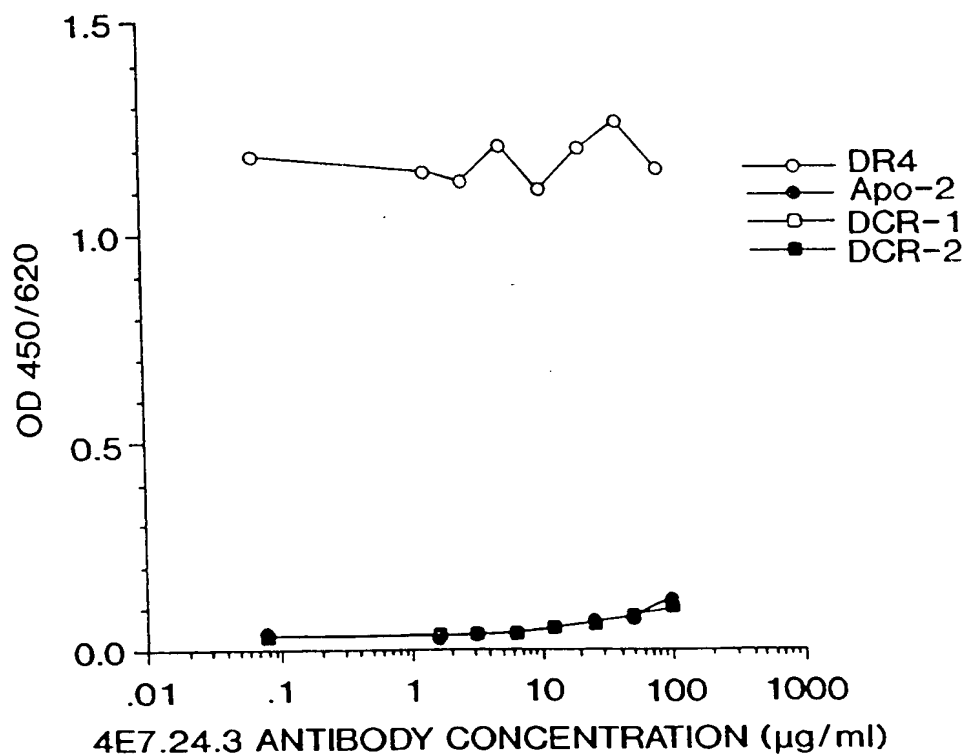
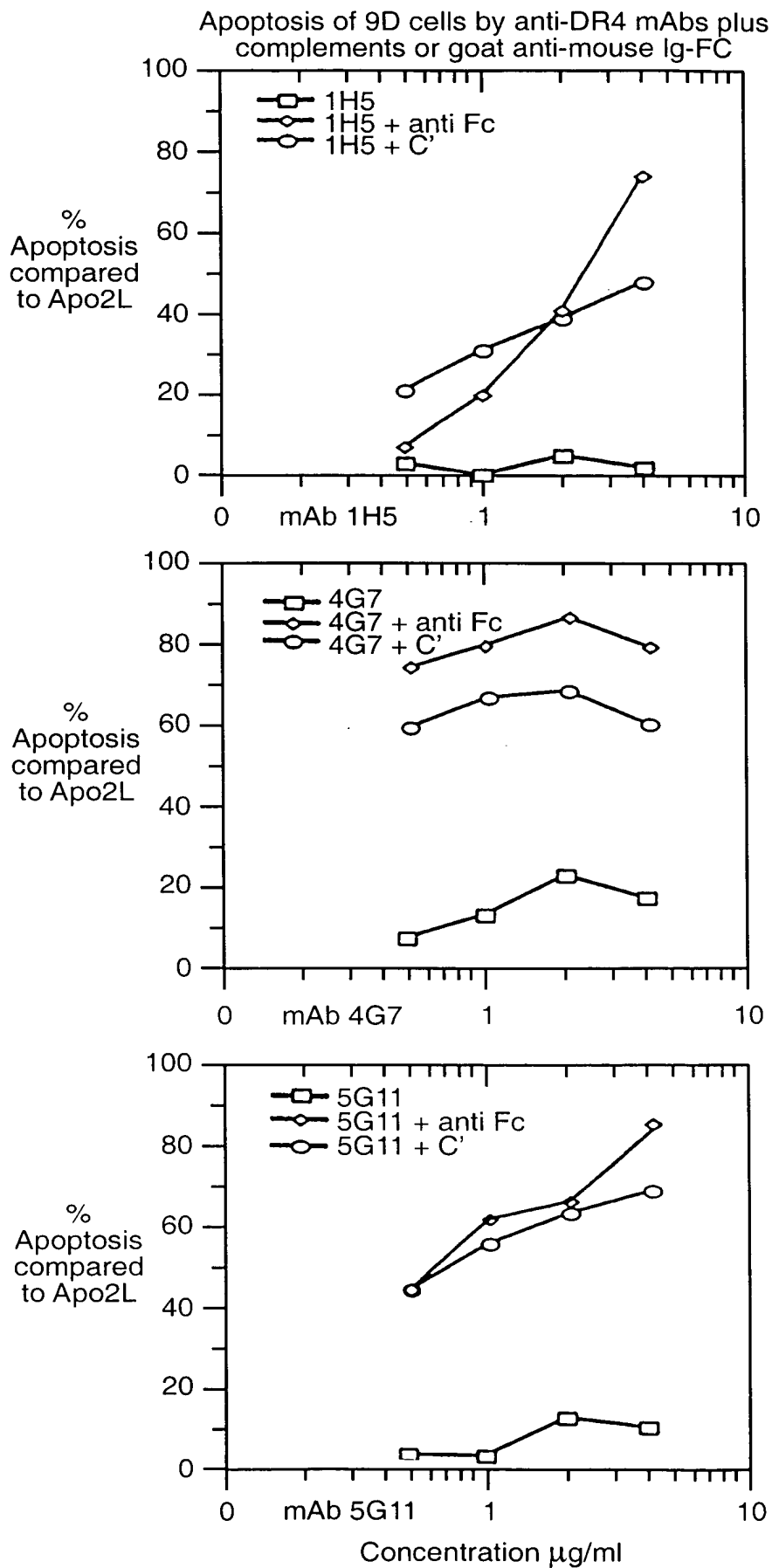


FIG. 6B



FIG. 8A



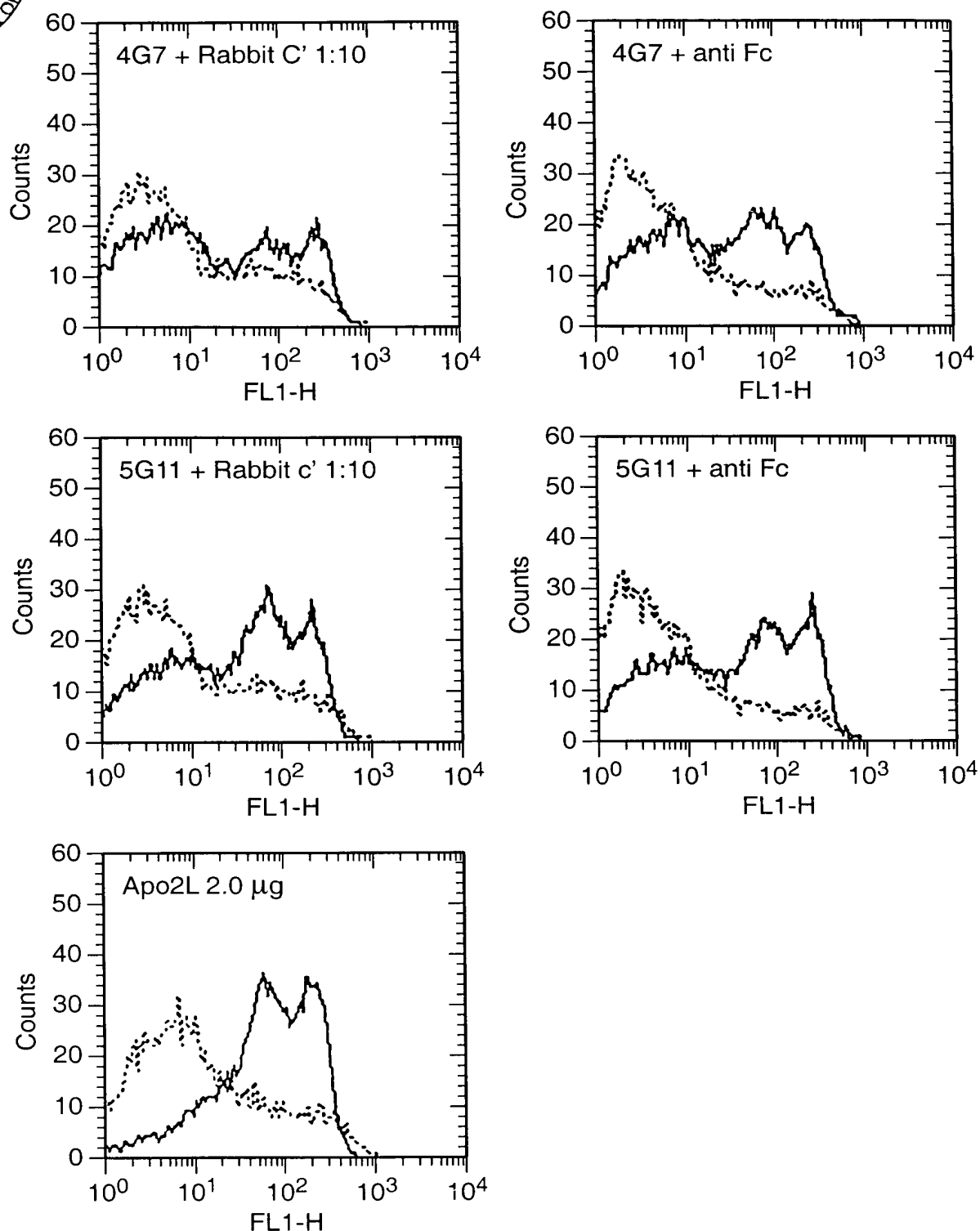


FIG. 8B

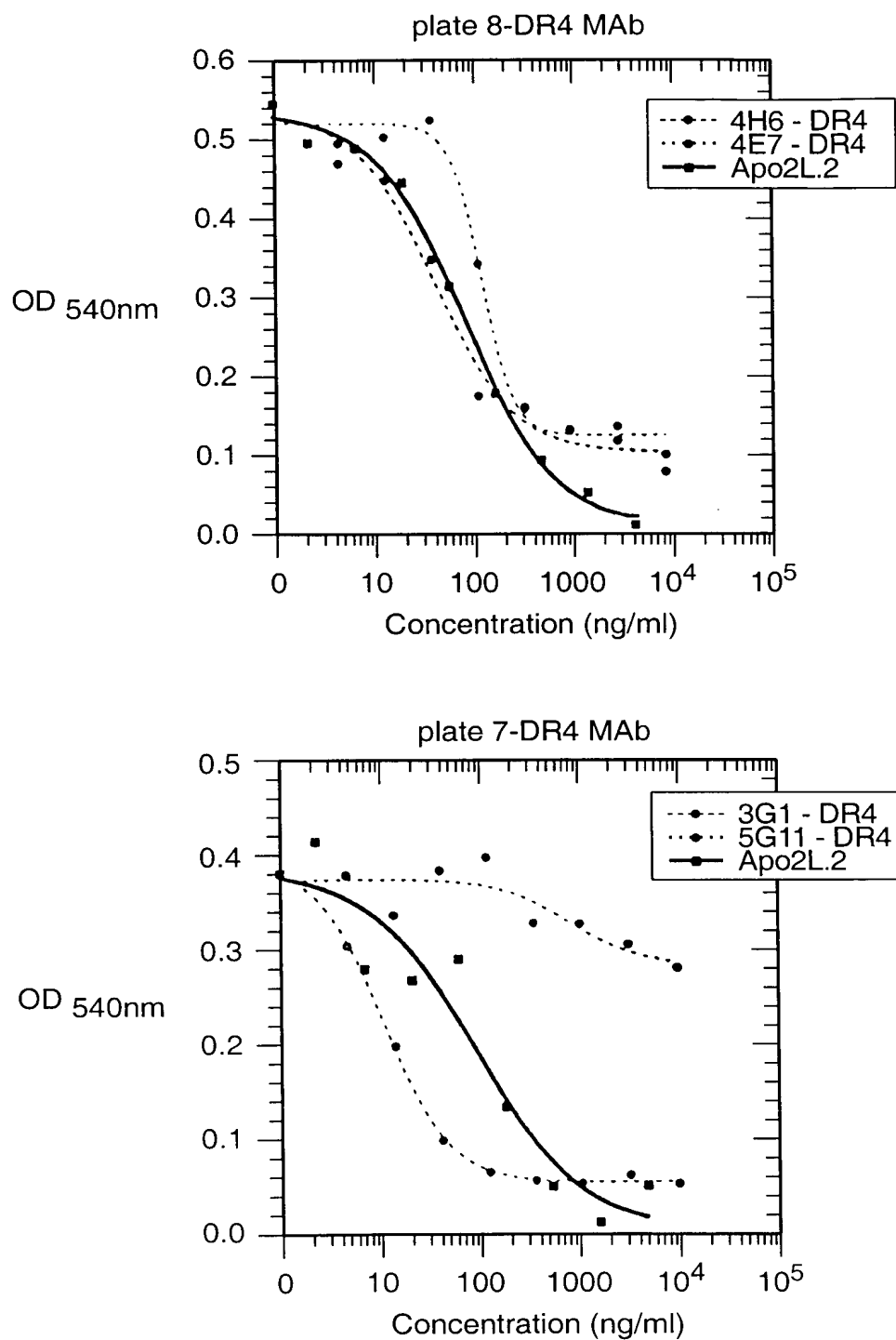


FIG. 9A

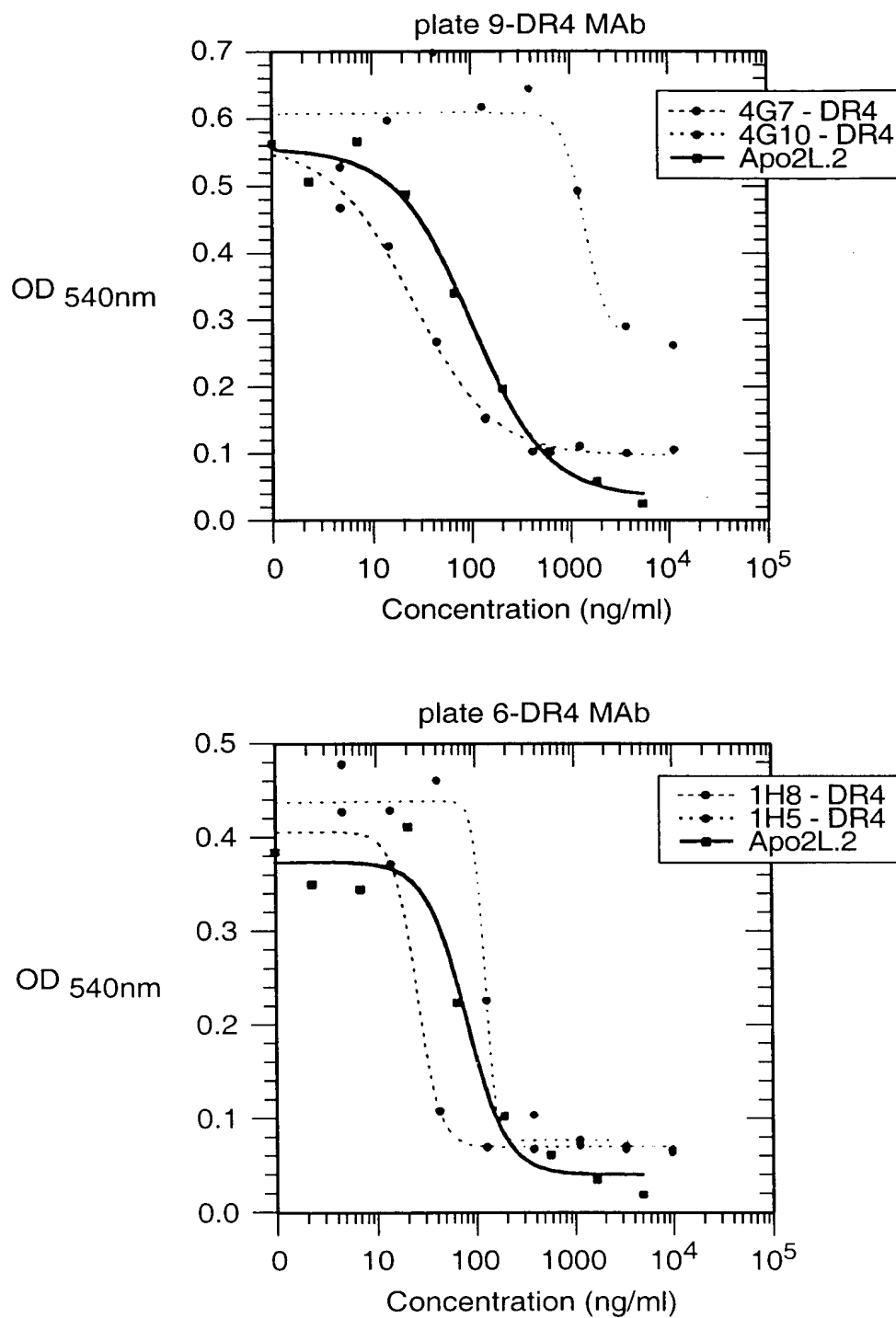


FIG._9B



Apoptosis of anti DR4 mAbs plus goat anti FcAb

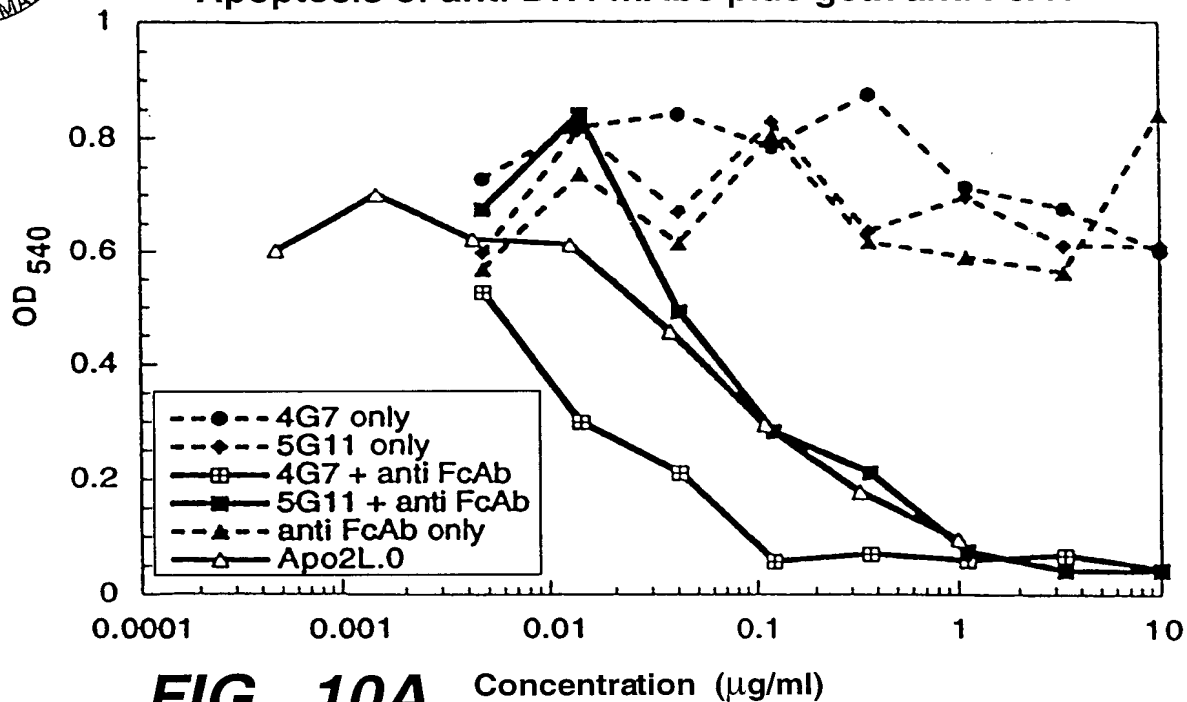


FIG. 10A

Apoptosis induced by anti DR4 mAbs plus Complements

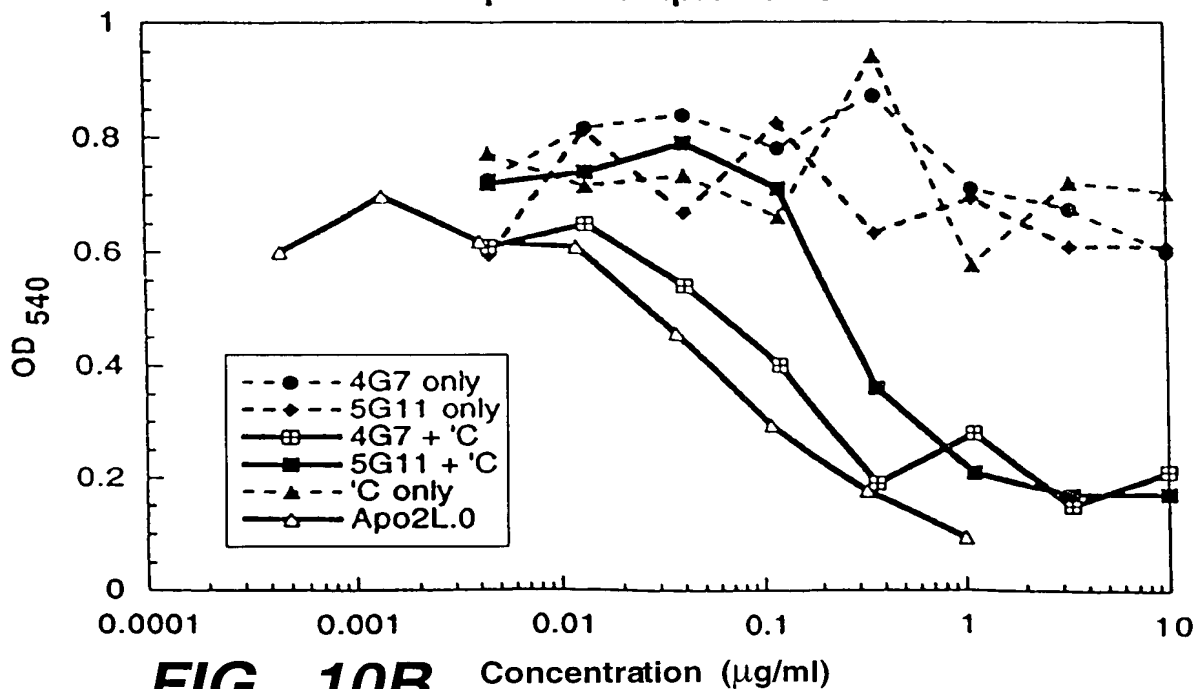
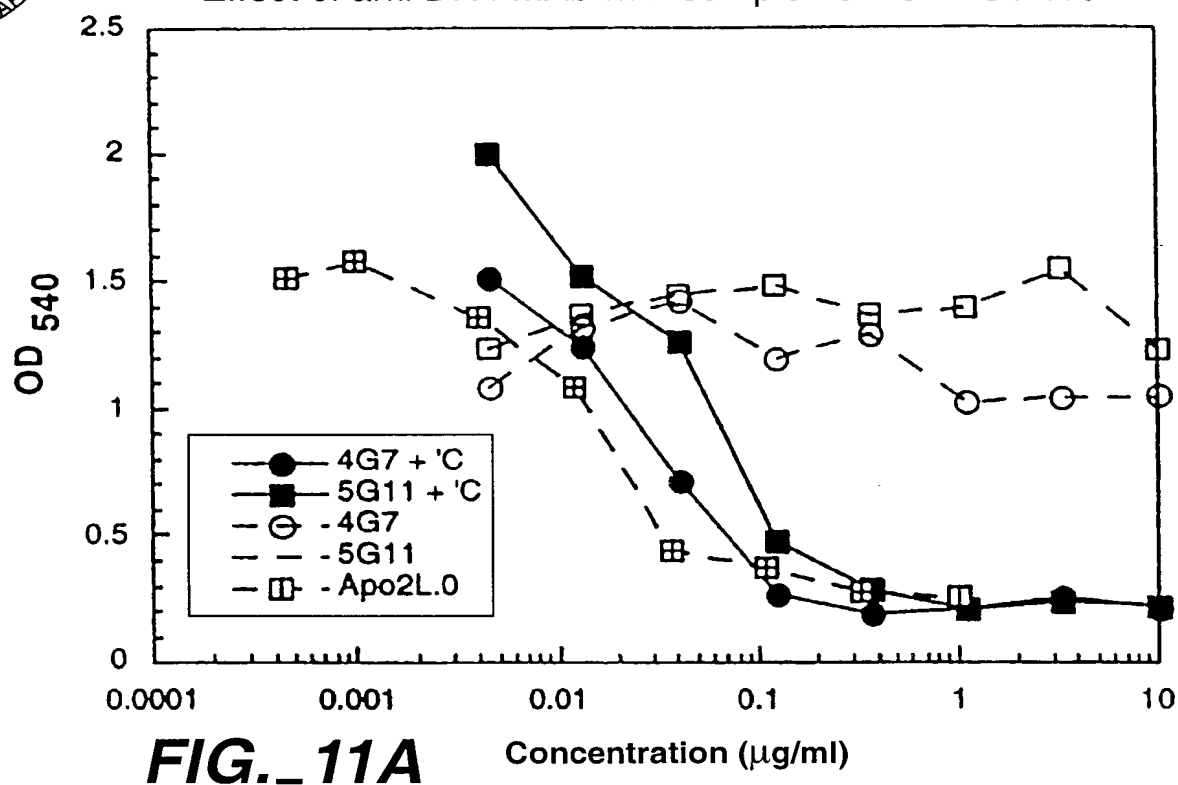


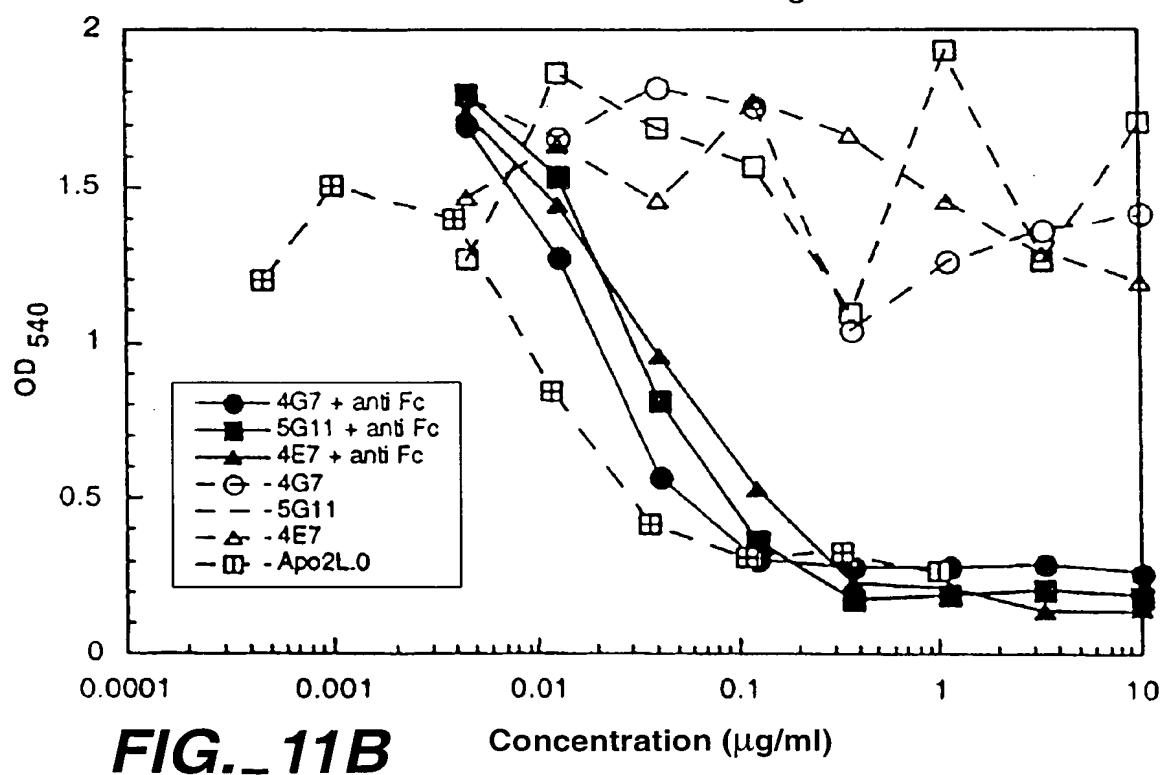
FIG. 10B



Effect of anti DR4 MAb with complement on HCT 116



Effect of anti DR4 MAb with anti-IgFc on HCT 116



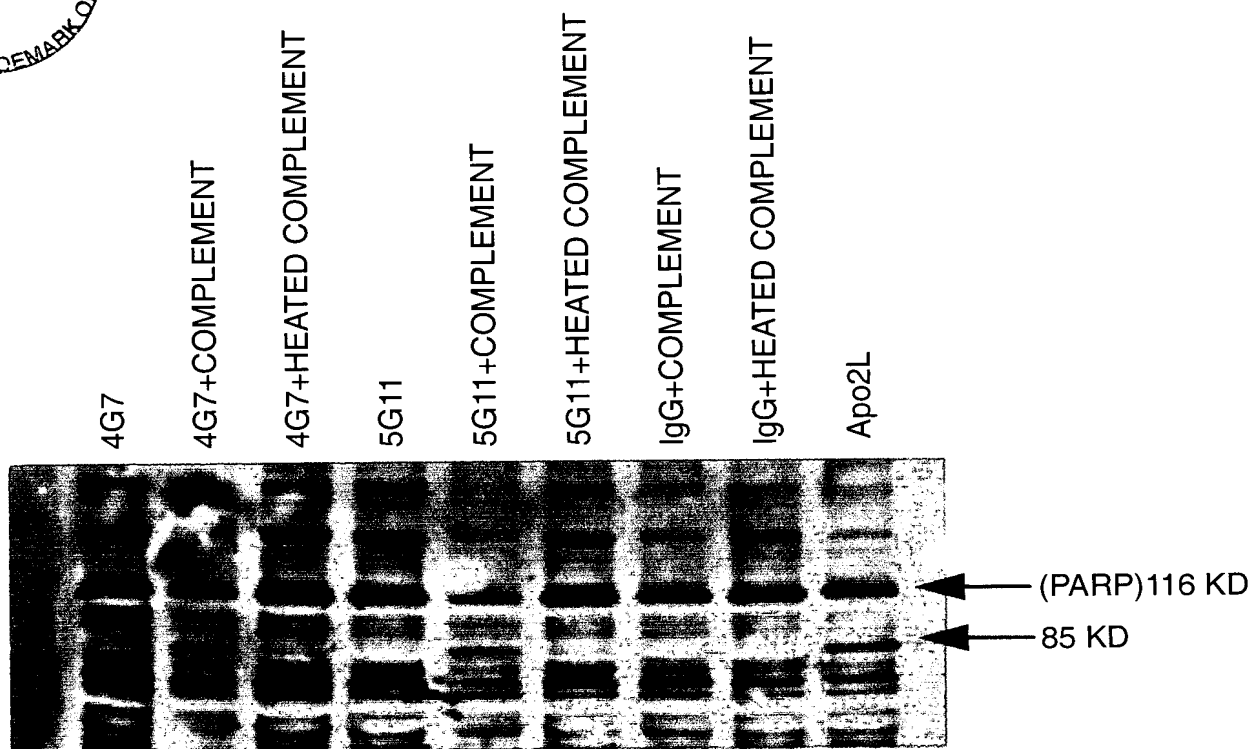


FIG. 12

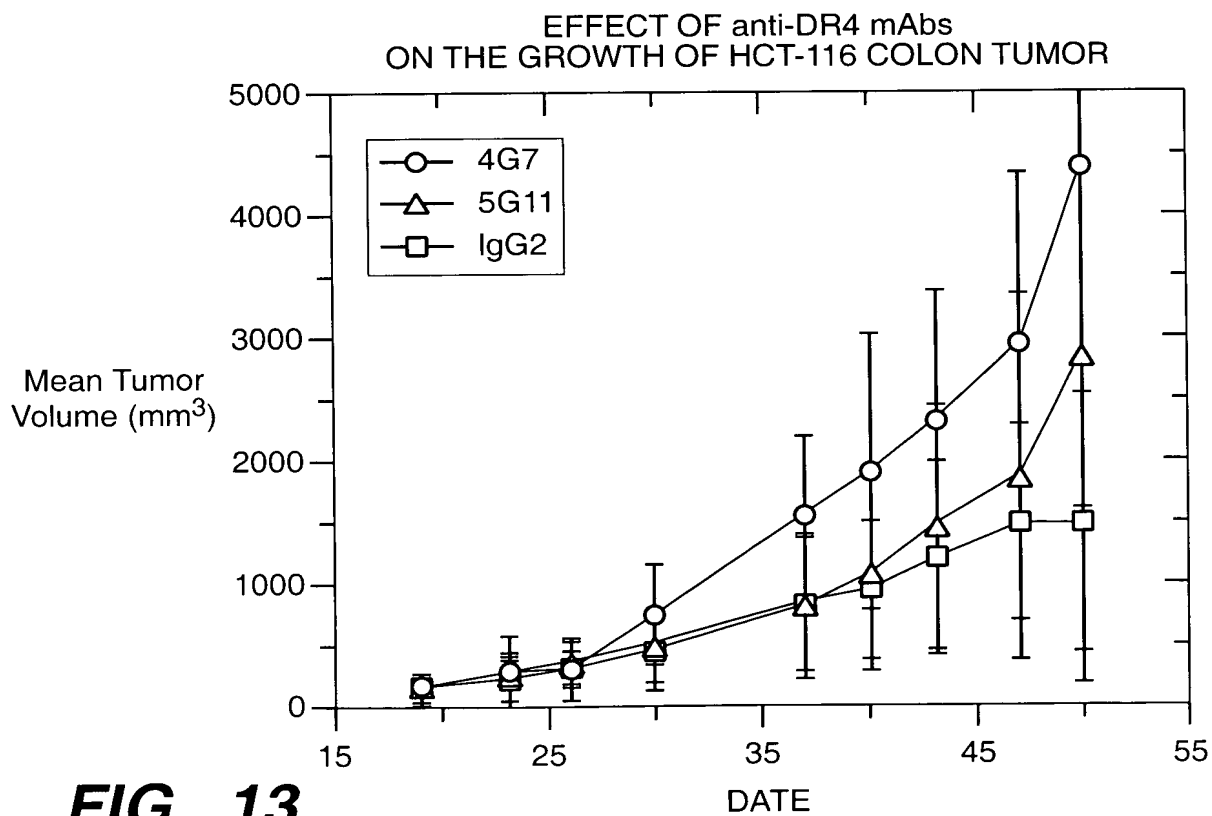
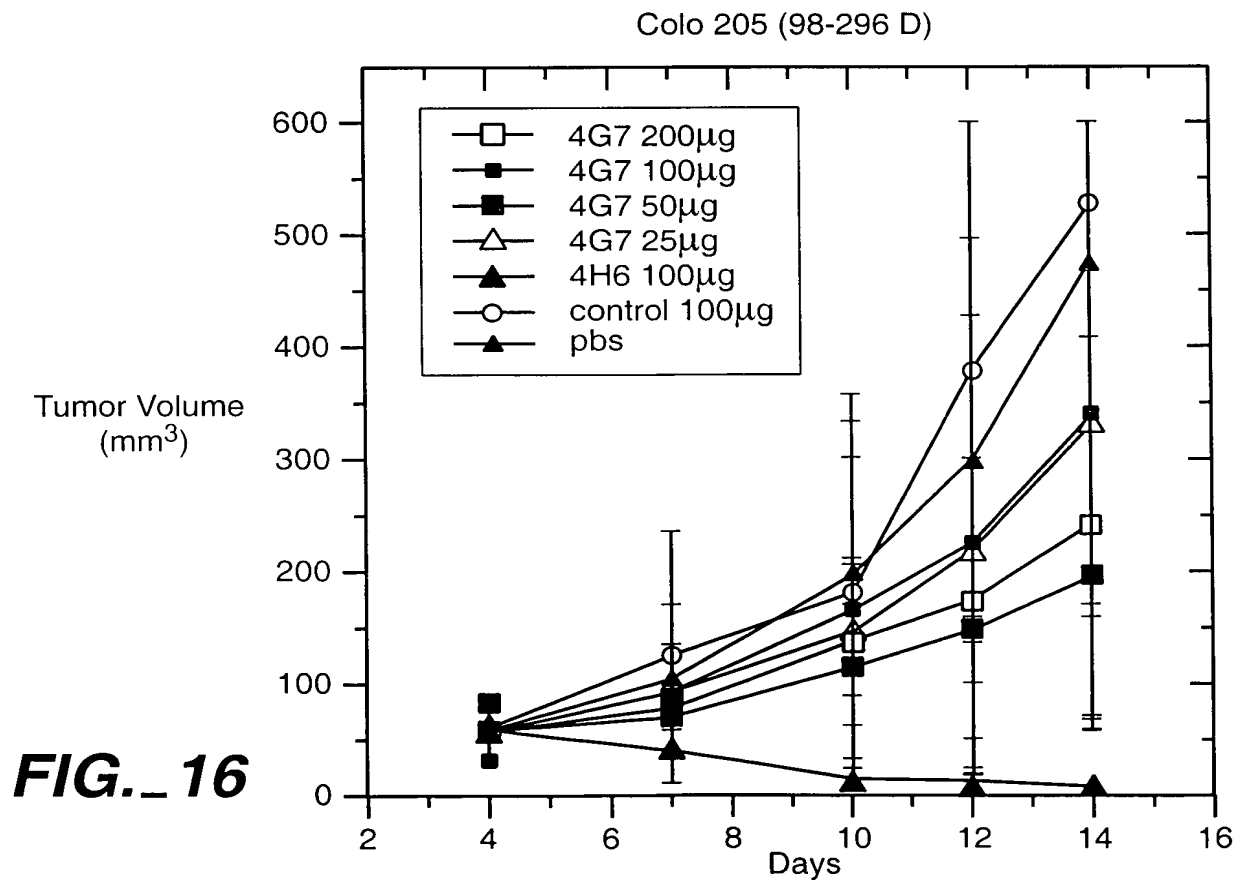
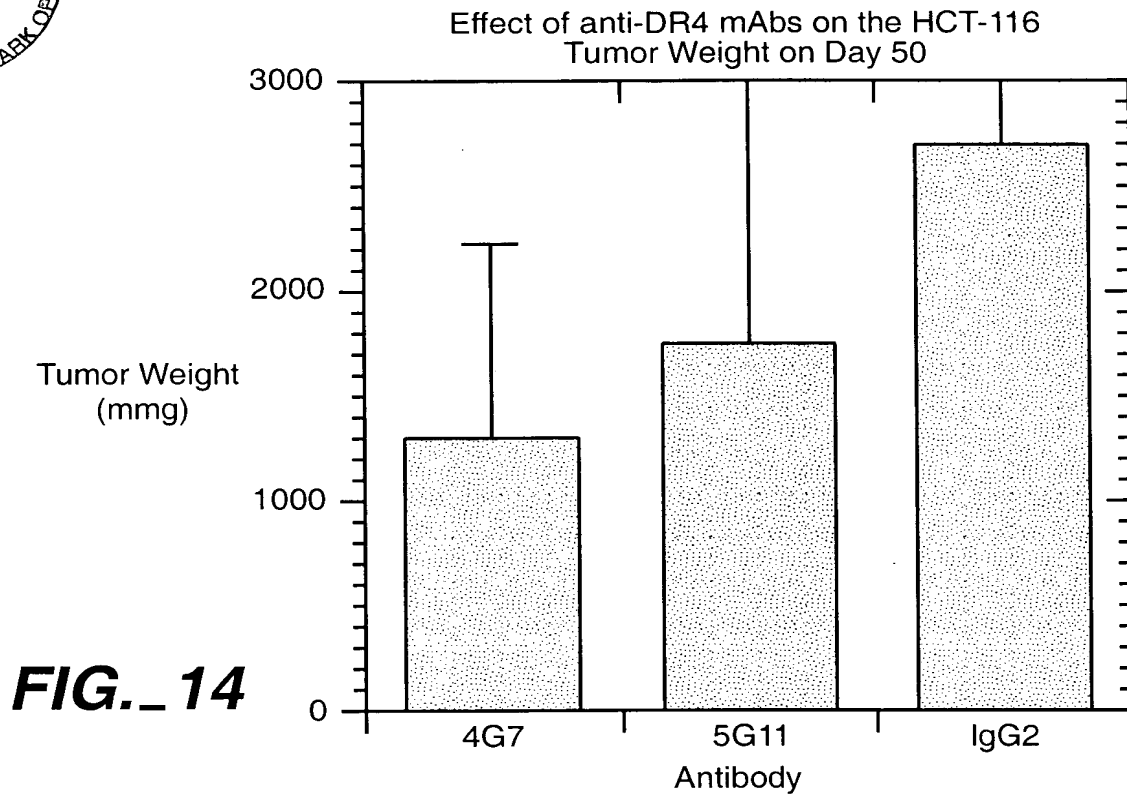


FIG. 13



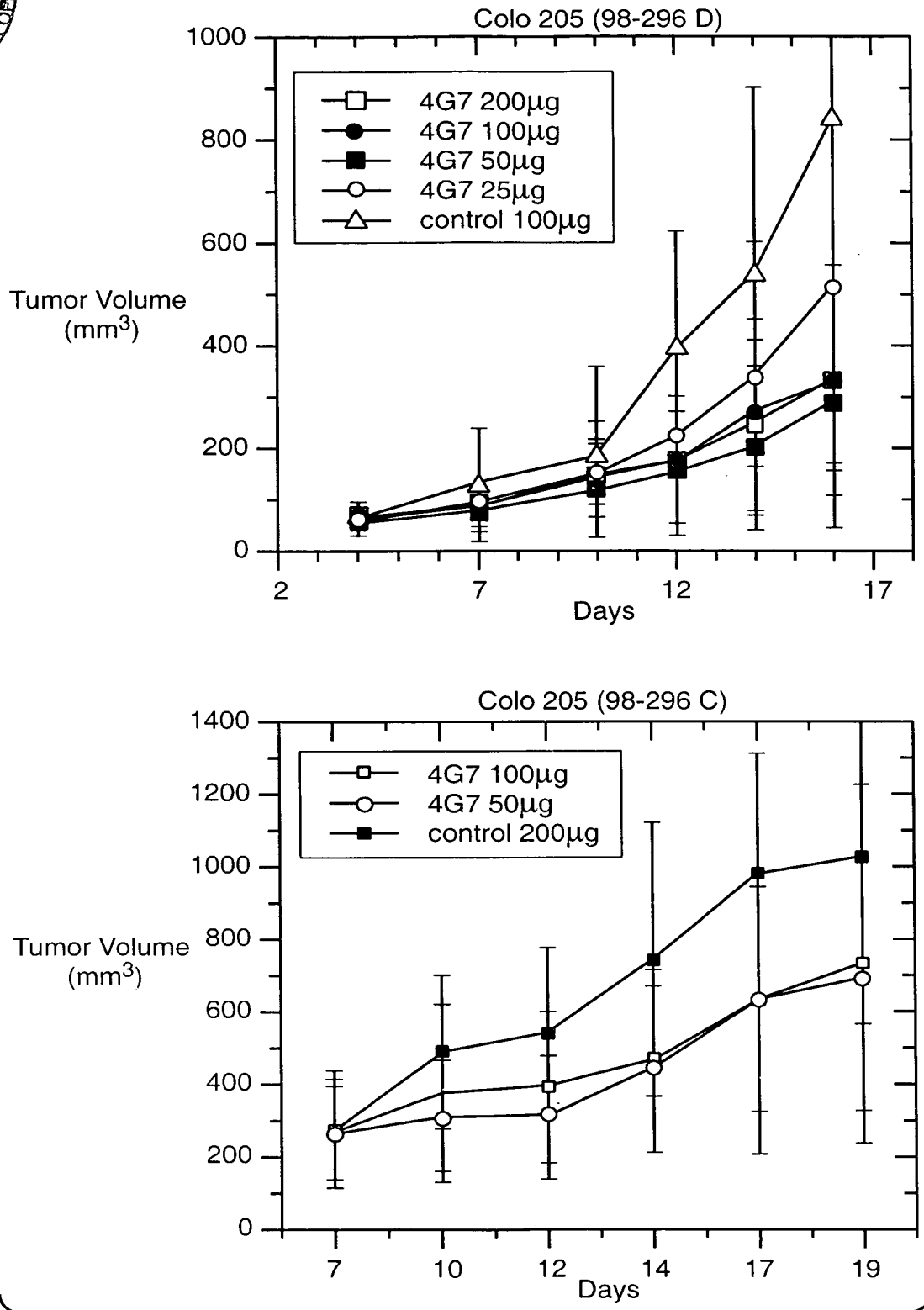


FIG._15



GENERAL CHARACTERISTICS OF ANTI-DR4 mAbs

| Isotype | Kd-1 (pm) | Apop w / o L | Apop + &Fc | Apop + C' | Block | DR4 | Cross Reactivity DR5 | DCR1 | DCR2 |
|-----------|--------------|-----------------|---------------|--------------|-------|-----|-------------------------|------|-------|
| 1H5.24.9 | | | - | - | ND | +++ | - | - | - |
| 1H8.17.5 | | | + | ND | ND | +++ | - | - | - |
| 3G1.17.2 | | | - | ND | - | +++ | - | - | - |
| 4E7.24.3 | 2 | + / - | + | - | - | +++ | + | - | + / - |
| 4G7.18.8 | | + / - | + | + | - | +++ | - | - | - |
| 4H6.17.8 | 5 | + / - | + | - | + | +++ | + | - | - |
| 4G10.20.6 | | | + | ND | - | +++ | + | - | - |
| 5G11.17.1 | 22 | | + | + | ND | +++ | ++ | - | - |

All these mAbs recognize DR4 on 9D cells and immune precipitate DR4-IgG.
w / o L: The apoptotic ability of mAbs by themselves was detected on 9D cells, skmes cells, HCT116 and colo 205
+ &Fc: The apoptotic ability of mAbs was determined in combination with goat anti-mouse IgG FC.
+ C': The apoptotic ability of mAbs was determined in the presence of rabbit complement
Degrees of binding (+) to DR5 by Mabs 4E7 and 4H6 at 10 µg / ml are 15% of the binding of DR4.

FIG._17